

KLAUS ZUCHOLL et al.
U.S. Appl. S.N. 10/849,030

IN THE DRAWINGS:

Please enter the appended replacement sheets of Figs. 1-4 in which the following corrections have been made:

1. The duplicate copy of Fig. 1 (not labeled as Fig. 1) has been deleted.
2. In Fig. 3 the reference character "5" has been corrected to reference character "2" to indicate a pump as correctly assumed by the Examiner and as indicated in red in the appended "marked up" copy.
3. The European format "1/3", "2/3" and "3/3" have been corrected by their removal from the replacement sheets.

Entry of the replacement sheets to correct the informalities noted in the Office Action is respectfully requested.

R E M A R K S

Reconsideration is respectfully requested in view of the amended claims, compliance with formal matters and the following analysis of the prior art.

1. Formal Matters

The Office Action correctly notes the informalities with the drawings including the unnumbered duplicate of FIG. 1, the problem of reference character "5" in FIG. 3 and the marking of the drawings "1/3", "2/3" and "3/3".

These informalities arose due mainly to the difference between U.S. and foreign patent practice. Nevertheless the error in FIG. 3 has been corrected to reference character "2" and the duplicative of FIG. 1 and the "1/3", "2/3" and "3/3" have been removed in the appended replacement drawings.

Entry of the replacement drawings is respectfully requested.

Also in view of the addition of method claims 18 and 19 an amendment of the title is respectfully requested.

Method claims 18 and 19 have been added to further underscore the patentable differences between the Applicant's invention and the prior art. These differences which will be discussed in greater detail later and involve efficiency and energy savings resulting from the use of the washing liquid alone to gradually dissolve a solid cleansing agent by diverting only a portion of the warm wash water.

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New claims 18 and 19 do not add new matter and are fully supported by the Specification and drawings as filed. In addition the amendments to the independent claims are also fully supported by the Specification as filed. More particularly the addition of the gradual dispensing of the cleansing agent is supported by paragraphs 0033, 0036, Fig. 3 and elsewhere in the Specification. The addition of subparagraph (d) in claim 16 is supported by paragraph 0037 and the addition of subparagraph (e) of claim 16 and to subparagraph (f) of claim 17 is supported by paragraph 0032.

Claim Rejections 35 U.S.C. § 112

Claims 1, 16 and 17 were rejected for using the phrases, "such as" and "similar".

Claims 1, 16 and 17 have been appropriately amended to remove these terms.

Claim Rejections 35 U.S.C. § 102 and 103

The applied prior art of Shore (GB Patent No. 1300756), Comin (EPO Publication No. 0517015A) and Hohmann, et al. U.S. 4,710,233 all pertain to the use of soap powder (Shore 1. 20-22) powered detergent (Comin col. 1 l. 40-45) solutions (Hohman, et al. col. 1. l. 59). Whah, et al. 6,269,666 pertains to minimizing suds lock in a spray pretreatment.

The invention is patentably distinguishable from this prior art. The invention pertains to an efficient washing system that saves both the cleansing agent and energy by using a solid

cleansing agent that is only gradually dissolved in repeated washing cycles and wherein the wash liquid is used to remove a part of the cleansing agent. The energy efficiency is achieved by using the heated wash liquid to partially remove the cleansing agent from the cleansing agent holding receptacle only a bit at a time and only when and if needed.

The secret of the invention is to use only a portion of the heated wash liquid to dissolve only such amount of cleansing agent as needed as determined by the sensors and control unit in separate solving and cleaning cycles. The use of small portions of heated wash liquid in repeated cycles allows the solving cycle to sip only small amounts of energy as needed to deliver only as much cleaning agent as needed.

The only cited prior art that even suggests use of a solid cleaning agent is Chan, et al. U.S. Patent 5,500,050 which also suggests the use of a liquid, powder or slurry type chemicals (col. 1 l. 1-5). Chan, et al. '050 pertains to a system of handling low detergent conditions for liquid, powder, slurry and solid detergents. Even when Chan, et al. '050 uses a solid it is not the energy efficient system or method of the invention. As is shown in Figure 1 of Chan, et al. '050 the detergent in container 114 is connected to the "water source 119 to spray into the detergent container 114 thereby dissolving and transporting detergent into the dishwasher's wash tank . . ." col. 5 l. 5-10. Chan, et al. '050 is not energy efficient since energy is needed to heat water from the water source 119 or add heat to the wash

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tank to maintain temperature in the washing machine.

The invention in contrast is energy efficient by utilizing only the heated wash liquid to dissolve a part of the cleansing agent in repeated solving cycles as needed. In addition the invention is efficient in dissolving only so much of the cleansing agent as is needed for a particular washing operation at a controlled temperature which temperature is the preset temperature of the washing cycle. Chan, et al. '050 in contrast is not only not energy efficient but also does not control the temperature from the water source which tends to be very cold in winter to warm in summer resulting in greater energy use and unstable addition of cleansing agent washing conditions.

The novel and unobvious aspects of Applicants' invention is not disclosed in the prior art for which Applicants' respectfully request allowance.

Respectfully submitted,

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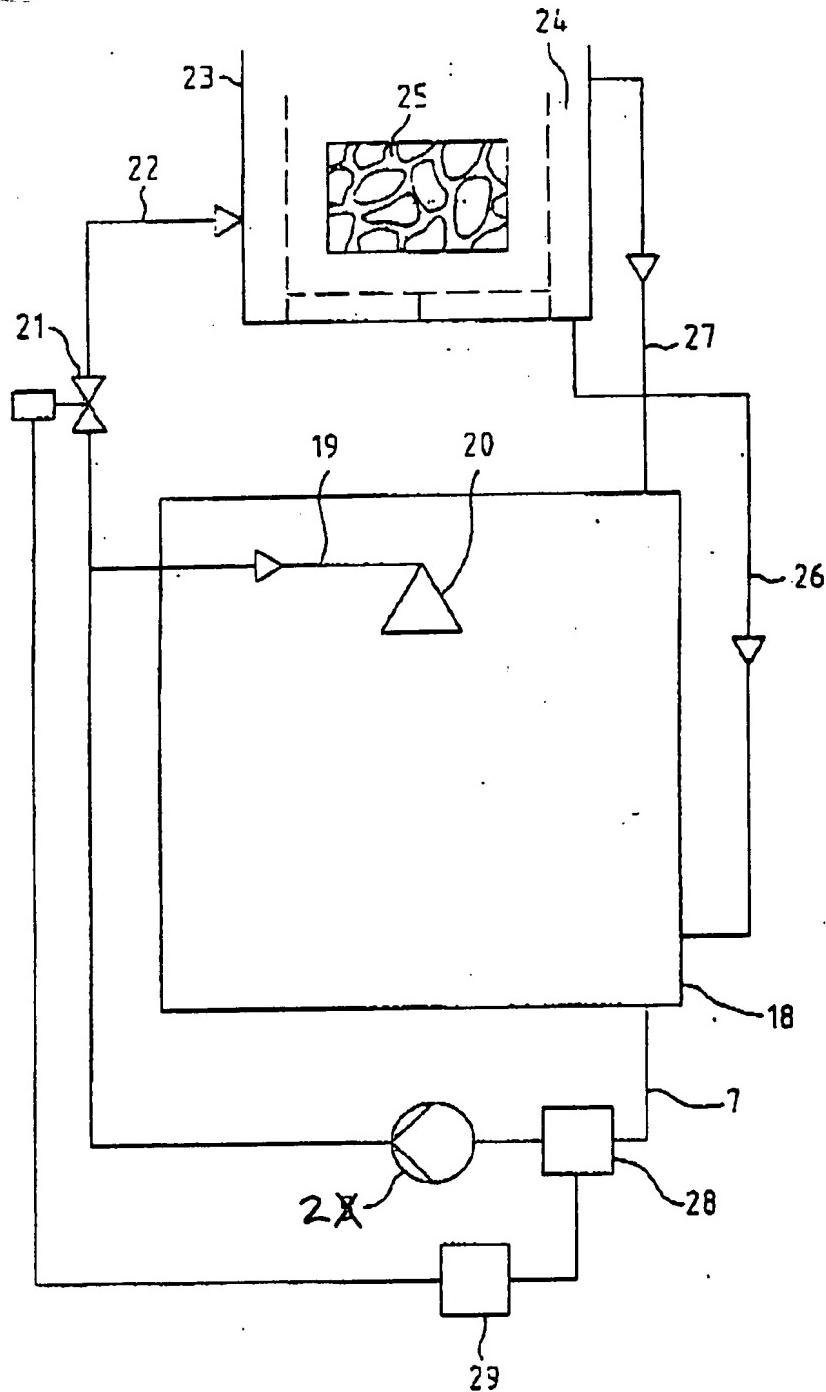


Fig. 3